Amendments to the Claims:

Following is a complete listing of the claims pending in the application, as amended:

1.   (Original) A method in a wearable computer for providing information about a current state of a user of the wearable computer, the current state modeled with multiple state attributes, the wearable computer executing a plurality of state server modules (SSMs) to supply values for the state attributes, executing a plurality of state client modules (SCMs) to receive and process values for the state attributes, and executing an intermediary module to facilitate exchange of state attribute values, comprising:

under control of each of the executing SSMs, sending to the intermediary module a registration message indicating a current availability of the SSM to supply values for at least one indicated state attribute;

under control of each of the executing SCMs,

determining a need for a value of one of the state attributes; and

sending to the intermediary module a request for a value of the one state attribute; and

under control of the intermediary module,

receiving the sent registration messages; and

for each of the executing SCMs,

receiving from the SCM the request for the value of the one state attribute;

determining based on the received registration messages multiple of the SSMs that are currently available to supply values for the one state attribute;

in response to the receiving of the request from the SCM, requesting the determined SSMs to supply the requested value;

receiving at least one value of the one state attribute in response to the requesting; and

sending to the SCM at least one of the received values,

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so that the SCMs receive values for the state attributes as requested from available SSMs.

2.   (Original) The method of claim 1 including, under the control of the intermediary module:

receiving from a first of the SSMs a current value of the indicated state attribute, the receiving not in response to a request of the first SSM for the current value; and

in response to the received current value, supplying the received current value to a first SCM.

3.   (Original) The method of claim 2 wherein at least some of the SCMs send registration messages to the intermediary module, each registration message indicating a current desire to receive values for an indicated one of the state attributes, and including determining that the first SCM is to receive the received current value based on a registration message previously received from the first SCM.

4.   (Original) The method of claim 1 wherein the intermediary module stores values for the state attributes that are received from the SSMs, and wherein the requesting of determined SSMs to supply a requested value to be sent to a SCM occurs only if an appropriate value for the indicated state attribute is not stored by the intermediary module.

5.   (Original) The method of claim 1 wherein the sending of a received value to an SCM includes an indication of the SSM from which the sent value was received.

6.   (Original) The method of claim 1 including, under the control of each of the determined SSMs:

receiving the request from the intermediary module to supply the requested value;

determining at least one input sensor able to supply input information related to the requested value; and

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in response to the receiving of the request,

> obtaining the related input information from the determined input sensors;
>
> generating the requested value based on the obtained information; and
>
> sending to the intermediary module the generated value.

7.   (Original) The method of claim 1 including, under the control of a first of the SCMs:

receiving a sent value from the intermediary module; and

presenting information to a user of the first state client module based on the receiving of the value.

8.   (Original) The method of claim 1 wherein at least some of the SCMs send to the intermediary module requests for values of additional state attributes of a current state other than for the user, and wherein the intermediary module sends values for the additional state attributes to those SCMs, the values for the additional state attributes received from SSMs in response to requests for the values from the intermediary module.

9.   (Currently Amended) A method in a computer for providing information about a current state that is modeled with multiple state attributes, comprising:

receiving from a first source an indication of an ability to supply values for an indicated one of the state attributes of the modeled current state;

receiving from a second source an indication of an ability to supply values for another of the state attributes of the modeled current state; and

in response to receiving a request from a first client for a value of the indicated one attribute, the request including an indication of a source for the values of the one attribute,

> determining that the first source is available to supply the value;
>
> obtaining the value from the first source; and
>
> supplying a value obtained from the first source to the first client only if the first source is the indicated source.

10. (Original) The method of claim 9 wherein the obtaining of the value for the one attribute from the first source includes receiving descriptive information about the obtained value.

11. (Original) The method of claim 10 wherein the supplying of the obtained value to the first client includes supplying the descriptive information to the first client.

12. (Original) The method of claim 9 wherein the supplying of the obtained value to the first client includes supplying an indication of the first source.

13. (Canceled.)

13.
14. (Original) The method of claim 9 including, before supplying the obtained value to the first client:

determining whether the obtained value satisfies a criteria for values supplied to the first client; and

when it is determined that the obtained value does not satisfy the criteria,

requesting at least one source to supply a value for the one attribute that satisfies the criteria;

receiving in response to the requesting at least one additional value for the one attribute that satisfies the criteria; and

supplying to the first client a value for the one attribute based on the received additional values.

14.
15. (Original) The method of claim *13* 14 wherein the criteria is based on recency of the value.

15.
16. (Original) The method of claim 9 including storing values for attributes that are received from sources so that the stored values can be later supplied to clients.

16.

17. (Original) The method of claim 9 wherein the one attribute represents information about a user of the computer.

17.

18. (Original) The method of claim 17 16 wherein the represented information reflects a modeled mental state of the user.

18.

19. (Original) The method of claim 9 wherein the one attribute represents a current prediction about a future state.

19.

20. (Original) The method of claim 9 wherein the one attribute represents information about the computer.

20.

21. (Original) The method of claim 9 wherein the one attribute represents information about a physical environment.

21.

22. (Original) The method of claim 9 wherein the one attribute represents information about a cyber-environment of a user of the computer.

22.

23. (Currently Amended) ~~The method of claim 9~~ A method in a computer for providing information about a current state that is modeled with multiple state attributes, comprising:

receiving from a first source an indication of an ability to supply values for an indicated one of the state attributes of the modeled current state, ~~wherein the obtaining of the value from the first source involves requesting the first source to supply the value, wherein~~ the first source includ<u>ing</u>~~es~~ a group of instructions to be executed to produce a value for the one attribute<u>;</u>~~;~~

receiving from a second source an indication of an ability to supply values for another of the state attributes of the modeled current state;

in response to receiving a request from a first client for a value of the indicated one attribute,

determining that the first source is available to supply the value;

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obtaining the value from the first source, the obtaining including requesting the first source to supply the value; and

supplying a value obtained from the first source to the first client;

and ~~including~~ loading and executing the group of instructions in response to the requesting of the first source to supply the value, the loading and executing so that the first source can produce the requested value.

~~73.~~
/~~24.~~ (Currently Amended) ~~The method of claim 9~~ A method in a computer for providing information about a current state that is modeled with multiple state attributes, comprising:

receiving from a first source an indication of an ability to supply values for an indicated one of the state attributes of the modeled current state;

receiving from a second source an indication of an ability to supply values for another of the state attributes of the modeled current state;

in response to receiving a request from a first client for a value of the indicated one attribute, ~~wherein~~ the first client includ~~es~~ ing a group of instructions to be executed to receive a value for the one attribute,

determining that the first source is available to supply the value;

obtaining the value from the first source; and

supplying a value obtained from the first source to the first client;

and ~~including~~ loading and executing the group of instructions in response to receiving of a value for the one attribute from a source, the loading and executing before the receiving of the request from the first client.

~~74.~~
/~~25.~~ (Currently Amended) ~~The method of claim 9~~ A method in a computer for providing information about a current state that is modeled with multiple state attributes, comprising:

receiving from a first source an indication of an ability to supply values for an indicated one of the state attributes of the modeled current state;

receiving from a second source an indication of an ability to supply values for another of the state attributes of the modeled current state;

in response to receiving a request from a first client for a value of the indicated one attribute,

determining that the first source is available to supply the value;

obtaining the value from the first source; and

supplying a value obtained from the first source to the first client;

~~including~~ receiving from the first client an indication of a second of the state attributes and an indication that a source for a value for the second state attribute is to be a same source as for the supplied value for the one attribute; ~~,~~ and

selecting a value to be supplied to the first client for the second state attribute that is received from the same source.

22,

~~26.~~ (Original) The method of claim 9 including, after receiving a request from the first client for a value of a second indicated attribute and receiving a value from a source for the second attribute, supplying to the first client the received value for the second attribute.

23.

~~27.~~ (Original) The method of claim ~~26~~ 22 wherein the received value for the second attribute is from the first source.

24,

~~28.~~ (Original) The method of claim 9 including, after receiving a value for the one attribute from a third source, supplying the received value to the first client.

25.

~~29.~~ (Original) The method of claim 9 including, after receiving a request from a second client for a value of the another attribute and receiving a value from the second source for the another attribute, supplying the received value to the second client.

26,

~~30.~~ (Original) The method of claim 9 wherein the obtaining of the value from the first source by the intermediary module involves requesting the first source to supply the value and receiving the requested value in response, and wherein the received

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value from the first source in based on input information related to the one attribute that is retrieved by the first source in response to the requesting.

25.

/~~31.~~ (Currently Amended) ~~The method of claim 9 including:~~ A method in a computer for providing information about a current state that is modeled with multiple state attributes, comprising:

receiving from a first source an indication of an ability to supply values for an indicated one of the state attributes of the modeled current state;

receiving from a second source an indication of an ability to supply values for another of the state attributes of the modeled current state;

in response to receiving a request from a first client for a value of the indicated one attribute,

determining that the first source is available to supply the value;

obtaining the value from the first source; and

supplying a value obtained from the first source to the first client;

receiving from a source a current value of a specified state attribute, the receiving not in response to requesting the current value from the source; and

in response to the receiving of the current value,

determining at least one client having an interest in receiving values for the specified state attribute; and

sending the received current value to each of the determined clients.

27.

~~32.~~ (Original) The method of claim 9 including supplying to the first client a mediated value for the one attribute that is based on multiple received values for the one attribute.

28.

~~33.~~ (Original) The method of claim 9 wherein receiving of the supplied value by the first client prompts the first client to present information to a user of the first client.

29.

~~34.~~ (Original) The method of claim 9 including:

receiving from the first client an indication of a condition; and

when it is determined that the condition is satisfied, notifying the first client.

30.
35. (Original) The method of claim *29* 34 wherein the condition relates to a specified one of the state attributes having a specified value.

76.
36. (Currently Amended) A computer-readable medium whose contents cause a computing device to provide information about a current state that is modeled with multiple state attributes, by performing a method comprising:

receiving from a first source an indication of an ability to supply values for an indicated one of the state attributes of the modeled current state; and

in response to receiving a request from a first client for a value of the indicated one attribute that includes an indication of a source for the values of the one attribute,

determining that the first source is available to supply the value;

obtaining the value from the first source; and

if the first source is the indicated source, supplying a value obtained from the first source to the first client.

77.
37. (Original) The computer-readable medium of claim *76* 36 wherein the computer-readable medium is a memory of the computing device.

78.
38. (Currently Amended) A computer-readable generated data signal transmitted via a transmission medium, the generated data signal having encoded contents that cause a computer system to provide information about a current state that is modeled with multiple state attributes, by performing a method comprising:

receiving from a first source an indication of an ability to supply values for an indicated one of the state attributes of the modeled current state;

receiving from a second source an indication of an ability to supply values for another of the state attributes of the modeled current state; and

in response to receiving a request from a first client for a value of the indicated one attribute that includes an indication of a source for the values of the one attribute,

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determining that the first source is available to supply the value;

obtaining the value from the first source; and

supplying a value obtained from the first source to the first client only if the first source is the indicated source.

79.

38. (Currently Amended) A computing device for providing information about a current state that is represented with multiple attributes, comprising:

an attribute mapping module that is capable of receiving from a first source an indication of an ability to supply values for an indicated one of the attributes of the current state and of receiving from a second source an indication of an ability to supply values for another of the attributes of the current state;

an attribute value request module that is capable of receiving a request for a value of the one attribute from a first client that indicates a source for the values of the one attribute; and

an attribute value supplier module that is capable of, in response to the receiving of the request, determining that the first source is available to supply the value, requesting the value from the first source, and supplying to the first client a value received from the first source only if the first source is the indicated source.

80.

40. (Original) The computing device of claim 38 wherein the attribute mapping module, the attribute value request module, and the attribute value supplier module are components of an intermediary module executing in memory.

81.

41. (Original) The computing device of claim 38 further comprising multiple sources and multiple clients executing in the memory.

82.

42. (Currently Amended) A computing device for providing information about a current state that is represented with multiple modeled attributes, comprising:

means for receiving from a first source an indication of an ability to supply values for an indicated one of the modeled attributes of the current state and for receiving from

a second source an indication of an ability to supply values for another of the modeled attributes of the current state; and

means for, in response to receiving a request from a first client for a value of the indicated one attribute that indicates a source for the values of the one attribute, determining that the first source is available to supply the value, requesting the value from the first source, and supplying a value received from the first source to the first client only if the first source is the indicated source.

83.
43. (Currently Amended) A method in a portable computer for providing information about a context that is modeled with multiple context attributes, comprising:

receiving from each of multiple sources an indication of an ability to supply values for at least one of the context attributes of the modeled context;

receiving from each of multiple clients an indication of a desire to receive multiple values for one of the context attributes of the modeled context; and

for each of the multiple clients,

receiving multiple requests from the client for a value for the one context attribute for which the client has indicated the desire to receive values; and

after the receiving of each of the multiple requests, retrieving the requested value by,

determining whether any of the multiple sources currently have an ability to supply values for the one context attribute for which the client has indicated the desire to receive values;

when at least one of the multiple sources is determined to have the ability, requesting each of the determined sources to supply a value for the one context attribute;

receiving at least one value from the determined sources in response to the requesting; and

sending at least one of the received values to the client; and -

after requesting each of the determined sources to supply the value,

receiving from a first source an indication of an ability to supply values for the first attribute, the first source not one of the multiple sources; and

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62

A

after the receiving of a next request for a value of the first attribute, requesting the first source to supply a value of the first attribute.

44.   (Canceled.)

45.   (Currently Amended) ~~The method of claim 43~~ A method in a portable computer for providing information about a context that is modeled with multiple context attributes, comprising:

receiving from each of multiple sources an indication of an ability to supply values for at least one of the context attributes of the modeled context;

receiving from each of multiple clients an indication of a desire to receive multiple values for one of the context attributes of the modeled context;

for each of the multiple clients,

receiving multiple requests from the client for a value for the one context attribute for which the client has indicated the desire to receive values; and

after the receiving of each of the multiple requests, retrieving the requested value by,

determining whether any of the multiple sources currently have an ability to supply values for the one context attribute for which the client has indicated the desire to receive values;

when at least one of the multiple sources is determined to have the ability, requesting each of the determined sources to supply a value for the one context attribute;

receiving at least one value from the determined sources in response to the requesting; and

sending at least one of the received values to the client; and

~~including,~~ after requesting each of the determined sources to supply the value:

_____receiving from one of the determined sources an indication of an inability to supply values for the first attribute; and

_____after the receiving of a next request from a client for a value of the first
attribute, requesting a group of sources to supply a value of the first attribute such that
the group of sources does not include the one determined source.

84
46. (Original) The method of claim **83** wherein the context attributes represent
information about a user of the portable computer.

85.
47. (Original) The method of claim **83** wherein the context that is represented
is a current context.

86.
48. (Original) The method of claim **83** wherein the requesting of a first source
to supply a value for the one context attribute prompts the first source to retrieve input
information related to the one context attribute and to generate the value for the one
context attribute based on the retrieved input information.

87.
49. (Original) The method of claim **83** wherein receiving of the sent value by
the client prompts the client to present information to a user of the client.

100.
50. (Currently Amended) A computer-readable medium containing
instructions that when executed cause a computing device to provide information about
a context that is modeled with multiple context attributes, by:

receiving from each of multiple sources an indication of an ability to supply
values for at least one of the context attributes of the modeled context;

receiving from each of multiple clients an indication of a desire to receive multiple
values for one of the context attributes of the modeled context; ~~and~~

for each of the multiple clients,

receiving multiple requests from the client for a value for the one context
attribute for which the client has indicated the desire to receive values; and

after the receiving of each of the multiple requests, retrieving the
requested value by,

determining whether any of the multiple sources currently have an ability to supply values for the one context attribute for which the client has indicated the desire to receive values;

when at least one of the multiple sources is determined to have the ability, requesting each of the determined sources to supply a value for the one context attribute;

receiving at least one value from the determined sources in response to the requesting; and

sending at least one of the received values to the client; and ~

after requesting each of the determined sources to supply the value,

receiving from a first source an indication of an ability to supply values for the first attribute, the first source not one of the multiple sources; and

after the receiving of a next request for a value of the first attribute, requesting the first source to supply a value of the first attribute.

51. (Currently Amended) A portable computer for providing information about a context that is represented with multiple attributes, comprising:

an attribute mapping module that is capable of receiving from each of multiple sources an indication of an ability to supply values for at least one of the attributes of the context and of receiving from each of multiple clients an indication of a desire to receive multiple values for one of the attributes of the context; and

an attribute value supplier module that is capable of receiving from each of the multiple clients multiple requests for a value for the one attribute for which the client has indicated the desire to receive values, of determining after the receiving of each of the multiple requests whether any of the multiple sources currently have an ability to supply values for the one attribute, of requesting after the determining of at least one source that each determined source supply a value for the one attribute, of receiving in response to the requesting at least one value from the determined sources, and of sending after the receiving at least one of the received values to the requesting client, ~ and of, after requesting each of the determined sources to supply the value, receiving from a first source an indication of an ability to supply values for the first attribute, the

first source not one of the multiple sources and requesting the first source to supply a value of the first attribute after the receiving of a next request for a value of the first attribute.

102.

52. (Original) A computer-implemented method for providing information about a current state that is modeled with multiple state attributes, each of the state attributes having multiple sources available to supply values for the attribute, comprising:

sending to an intermediary module a first request for a value of a first of the state attributes;

receiving from the intermediary module a first value for the first state attribute that was supplied from a first source, the first value obtained by the intermediary module from the first source in response to the sent first request and sent from the intermediary module in response to the sent first request;

sending to the intermediary module a second request for a value of the first state attribute;

receiving from the intermediary module a second value for the first state attribute that was supplied from a second source, the second value obtained by the intermediary module from the second source in response to the sent second request and sent from the intermediary module in response to the sent second request;

sending to the intermediary module a third request for a value of a second of the state attributes;

receiving from the intermediary module a third value for the second state attribute that was supplied from the first source, the third value obtained by the intermediary module from the first source in response to the sent third request and sent from the intermediary module in response to the sent third request; and

using at least one of the received values to perform processing based on the modeled current state.

103.

53. (Original) The method of claim 52 wherein the processing based on at least one of the received values includes presenting information to a user.

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66

104.

~~64.~~ (Original) The method of claim ~~52~~ *102* wherein the state attributes represent information about a user of the computer.

116.

~~65.~~ (Original) A computer-readable medium whose contents cause a computing device to provide information about a current state that is modeled with multiple state attributes, each of the state attributes having multiple sources available to supply values for the attribute, by:

sending to an intermediary module a first request for a value of a first of the state attributes;

receiving from the intermediary module a first value for the first state attribute that was supplied from a first source, the first value obtained by the intermediary module from the first source in response to the sent first request and sent from the intermediary module in response to the sent first request;

sending to the intermediary module a second request for a value of the first state attribute;

receiving from the intermediary module a second value for the first state attribute that was supplied from a second source, the second value obtained by the intermediary module from the second source in response to the sent second request and sent from the intermediary module in response to the sent second request;

sending to the intermediary module a third request for a value of a second of the state attributes;

receiving from the intermediary module a third value for the second state attribute that was supplied from a third source, the third value obtained by the intermediary module from the third source in response to the sent third request and sent from the intermediary module in response to the sent third request; and

using at least one of the received values to perform processing based on the modeled current state.

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117.

/56. (Original) A computing device for providing information about a current state that is modeled with multiple state attributes, each of the state attributes having multiple sources available to supply values for the attribute, comprising:

a first module capable of sending to an intermediary module a first request for a value of a first of the state attributes, of sending to the intermediary module a second request for a value of the first state attribute, and of sending to the intermediary module a third request for a value of a second of the state attributes;

a second module capable of receiving from the intermediary module a first value for the first state attribute that was supplied from a first source, the first value obtained by the intermediary module from the first source in response to the sent first request and sent from the intermediary module in response to the sent first request, of receiving from the intermediary module a second value for the first state attribute that was supplied from a second source, the second value obtained by the intermediary module from the second source in response to the sent second request and sent from the intermediary module in response to the sent second request, and of receiving from the intermediary module a third value for the second state attribute that was supplied from a third source, the third value obtained by the intermediary module from the third source in response to the sent third request and sent from the intermediary module in response to the sent third request; and

a third module using at least one of the received values to perform processing based on the modeled current state.

118.

/57. (Currently Amended) A computer-implemented method for providing information about a current state that is modeled with multiple state attributes, each of the state attributes having multiple sources available to supply values for the attribute, comprising:

sending to an intermediary module a registration message indicating an ability to supply values for an indicated one of the state attributes of the modeled current state; and

for each of multiple requests for a value of the one state attribute,

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receiving the request from the intermediary module, the sending of the request from the intermediary module based on an request received by the intermediary module from a client; and

in response to the receiving of the request,

retrieving multiple pieces of input information about the modeled current state,

generating a value for the one state attribute based at least in part on the retrieved input information and generating an uncertainty value associated with accuracy of the generated value; and

sending to the intermediary module an indication of the generated value and an indication of the generated uncertainty value so that the intermediary module can supply the generated value to the client.

58.   (Canceled.)

119.

~~59.~~   (Original) The method of claim ~~57~~ 118 including determining an effective time at which the generated value is most accurate, and wherein the sending of the indication of the generated value includes an indication of the determined effective time.

120.

~~60.~~   (Original) The method of claim ~~57~~ 118 including:

sending to the intermediary module a registration message indicating an ability to supply values for another one of the state attributes;

generating a value for the another state attribute based at least in part on received input information about the modeled current state, and

sending to the intermediary module an indication of the generated value for the another state attribute.

121.

~~61.~~   (Original) The method of claim ~~57~~ 118 wherein the state attributes represent information about a user of the computer.

131.

62. (Currently Amended) A computer-readable medium whose contents cause a computing device to provide information about a current state that is modeled with multiple state attributes, each of the state attributes having multiple sources available to supply values for the attribute, by performing a method comprising:

sending to an intermediary module a registration message indicating an ability to supply values for an indicated one of the state attributes of the modeled current state; and

for each of multiple requests for a value of the one state attribute,

receiving the request from the intermediary module, the sending of the request from the intermediary module based on an request received by the intermediary module from a client; and

in response to the receiving of the request,

retrieving multiple pieces of input information about the modeled current state,

generating a value for the one state attribute based at least in part on the retrieved input information and an uncertainty value associated with accuracy of the generated value; and

sending to the intermediary module an indication of the generated value and the associated uncertainty value so that the intermediary module can supply the generated value to the client.

132.

63. (Currently Amended) A computer system for providing information about a current state that is modeled with multiple state attributes, each of the state attributes having multiple sources available to supply values for the attribute, comprising:

a first module capable of sending to an intermediary module a registration message indicating an ability to supply values for an indicated one of the state attributes of the modeled current state; and

a second module capable of, for each of multiple requests for a value of the one state attribute,

receiving the request from the intermediary module, the sending of the request from the intermediary module based on an request received by the intermediary module from a client; and

in response to the receiving of the request,

retrieving multiple pieces of input information about the modeled current state,

generating a value for the one state attribute based at least in part on the retrieved input information and generating an uncertainty value associated with accuracy of the generated value; and

sending to the intermediary module an indication of the generated value and an indication of the generated uncertainty value so that the intermediary module can supply the generated value to the client.

64. (New) The method of claim 9 including:

determining a need for access to a resource available on another computer; and

accessing that resource to satisfy the need.

65. (New) The method of claim 64 wherein a characterization module is executing on the another computer, and wherein the accessing of the resource is performed via that characterization module.

66. (New) The method of claim 64 wherein the another computer corresponds to at least one of the first and second sources.

67. (New) The method of claim 64 wherein the another computer corresponds to the first client.

68. (New) The method of claim 64 wherein the resource is processing capabilities of the another computer, and wherein accessing of the resource includes use of the processing capabilities.

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36.

~~69.~~ (New) The method of claim ~~64~~ 31 wherein the resource is an input device of the another computer, and wherein accessing of the resource includes receiving input information from the input device.

37.

~~70.~~ (New) The method of claim ~~64~~ 31 wherein the resource is information used during the obtaining of the value and/or the supplying of the obtained value, and wherein accessing of the resource includes retrieving the information.

38.

~~71.~~ (New) The method of claim 9 wherein the first and second sources are associated with distinct characterization modules that each model a current state of a user of another computer on which those characterization modules are executing, and wherein the one attribute is related to a current state of a group of users.

39.

~~72.~~ (New) The method of claim 9 wherein the first and second sources are associated with distinct characterization modules that each model a current state of a user of another computer on which those characterization modules are executing, and wherein the characterization modules are part of a group of characterization modules that are hierarchically organized such that some of the characterization modules are supervisors each having an associated group of other subordinate characterization modules, and wherein the one attribute is related to the current state of the hierarchical organization.

40.

~~73.~~ (New) The method of claim 9 wherein the first and second sources are associated with distinct characterization modules each executing on a distinct other computing device, wherein each of the characterization modules is specialized to model a portion of the current state of a single user, and wherein the one attribute is related to information about the user including information for multiple of the portions of the current state.

41.

~~74.~~ (New) The method of claim 9 wherein the first source is associated with a characterization modules that models a current state of a user of another computer on

which that characterization module is executing, wherein information obtained from the first source specifies the one attribute with a distinct name, and wherein the obtaining of the value includes translating the specified name for the one attribute into a common name.

42.

75. (New) The method of claim 9 wherein the indication of the source indicates a characterization module, and wherein the determining that the first source is available includes selecting the indicated characterization module.

43.

76. (New) The method of claim 9 including:

determining whether the obtained value from the first source satisfies a criteria; and

when it is determined that the obtained value does not satisfy the criteria, obtaining an additional value from the first source that satisfies the criteria and replacing the obtained value with the obtained additional value before the supplying of the value.

44.

77. (New) The method of claim 9 wherein the one attribute represents information about a user of the computer.

45.

78. (New) The method of claim 9 wherein the one attribute represents information about the computer.

46.

79. (New) The method of claim 9 wherein the one attribute represents a current prediction about a future state.

47.

80. (New) The method of claim 9 wherein the one attribute represents information about a group of users such that each of the users is a user of a computer on which one of multiple characterization modules is executing.

48.

~~81.~~ (New) The method of claim 9 wherein the one attribute represents information about a group of computers on which multiple characterization modules are executing.

49.

~~82.~~ (New) The method of claim 9 wherein the one attribute represents information about a physical environment common to multiple computers corresponding to at least the first and second sources.

50.

~~83.~~ (New) The method of claim 9 wherein the one attribute represents information about a cyber-environment common to multiple computers corresponding to at least the first and second sources.

51.

~~84.~~ (New) The method of claim 9 including, after receiving a request from a client for a value of a second indicated attribute, obtaining information from multiple sources able to provide information related to the second attribute and supplying the obtained information to the client.

52.

~~85.~~ (New) The method of claim 9 further including generating a value related to the one attribute and supplying the generated value to the client.

53.

~~86.~~ (New) The method of claim 9 wherein receiving of the supplied obtained value by the client prompts the client to present information to a user.

54.

~~87.~~ (New) The method of claim 9 wherein the determining that the first source is available to supply the value is based at least in part on a previously received registration message for the first source.

55.

~~88.~~ (New) The method of claim 9 wherein security information must be received for a source before any information is accepted from the source.

56.

~~88.~~ (New) The method of claim 9 wherein security information must be received for the client before information is supplied to the client.

57.

~~90.~~ (New) The method of claim 9 wherein the method is performed by a characterization module executing on the computer.

58.

~~91.~~ (New) The method of claim 9 including, after the supplying of the value to the client, generating under control of the client another value that is based at least in part on the supplied value.

59.

~~92.~~ (New) The method of claim 9 wherein the method is performed by a first module, and wherein the obtaining of the value from the first source for the one attribute is such that no dependency exists for which the first source would need to obtain information from the first module as part of supplying the obtained value.

60.

~~93.~~ (New) The method of claim ~~92~~ **59** wherein the multiple state attributes are organized in such a manner to prevent the dependency.

61.

~~94.~~ (New) The method of claim ~~92~~ **59** including performing an analysis to determine that the dependent does not exist.

62.

~~95.~~ (New) The method of claim ~~92~~ **59** including determining that the dependency does not exist due to a lack of a received error message related to the dependency.

63.

~~96.~~ (New) The method of claim ~~92~~ **59** including, if the first source would otherwise have obtained information from the first module as part of supplying the obtained value, obtaining substitute information to prevent the dependency.

64.

~~97.~~ (New) The method of claim ~~96~~ **63** wherein the substitute information is information previously obtained from the first module.

65.

96. (New) The method of claim 96 [63] wherein the substitute information is an average of multiple values previously obtained from the first module.

66.

99. (New) The method of claim 99 [96 63] wherein the substitute information is an estimate of the information.

67.

100. (New) The method of claim 9 wherein the indication included in the request of the source is that the source is not specified, and including selecting the first source as the indicated source.

68.

101. (New) The method of claim 9 wherein the indication included in the request of the source is that any source, and including determining that the first source is the indicated source.

69.

102. (New) The method of claim 9 wherein the indication included in the request of the source includes indications of one or more criteria for a source, and including determining that the first source is the indicated source based on satisfaction of the indicated criteria.

70.

103. (New) The method of claim 9 wherein the first source is a characterization module executing on a computing system.

71.

104. (New) The method of claim 103 [70] including receiving from the first client an indication of a second of the state attributes and an indication of a source for a value for the second state attribute, selecting the first source as that indicated source, and selecting a value to be supplied to the first client for the second state attribute that is received from the first source.

88.

105. (New) The method of claim 43 [83] including:

determining a need for access to a resource available on another computer; and

accessing that resource to satisfy the need.

89.

106. (New) The method of claim 88 wherein the resource is information used during the retrieving of a requested value, and wherein accessing of the resource includes retrieving the information.

90.

107. (New) The method of claim 83 wherein the multiple sources are associated with distinct characterization modules each executing on a distinct other computing device, wherein each of the characterization modules is specialized to model a portion of the current state of a single user, and wherein the one attribute is related to information about the user including information for multiple of the portions of the current state.

91.

108. (New) The method of claim 83 including receiving an indication of a source for a requested value, and wherein the determining of whether any of the multiple sources currently have an ability to supply values for the one context attribute for which the client has indicated the desire to receive values is satisfied only if the indicated source has that ability.

92.

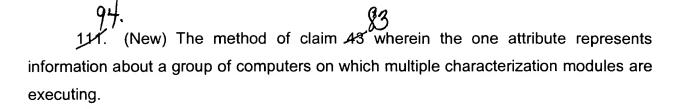109. (New) The method of claim 83 including:

determining whether a received value from one of the sources satisfies a criteria; and

when it is determined that the received value does not satisfy the criteria, obtaining an additional value from that source that satisfies the criteria and replacing the received value with the obtained additional value before sending that obtained value to the client.

93.

110. (New) The method of claim 83 wherein the one attribute represents information about a group of users such that each of the users is a user of a computer on which one of multiple characterization modules is executing.

94.

111. (New) The method of claim 83 wherein the one attribute represents information about a group of computers on which multiple characterization modules are executing.

95.

112. (New) The method of claim 83 wherein the one attribute represents information about a physical environment common to multiple computers corresponding to at least some of the multiple sources.

96.

113. (New) The method of claim 83 wherein the one attribute represents information about a cyber-environment common to multiple computers corresponding to at least some of the multiple sources.

97.

114. (New) The method of claim 83 including, after receiving a request from a client for a value of a second indicated attribute, obtaining information from multiple sources able to provide information related to the second attribute and supplying the obtained information to the client.

98.

115. (New) The method of claim 83 wherein the determining that one of the multiple sources has the ability to supply the value is based at least in part on a previously received registration message for that source.

105.

116. (New) The method of claim 102 including:

determining a need for access to a resource available on another computer; and

accessing that resource to satisfy the need.

106.

117. (New) The method of claim 105 wherein the resource is information used during obtaining of one or more of the values, and wherein accessing of the resource includes retrieving the information.

107.

118. (New) The method of claim 102 wherein the first and second sources are associated with distinct characterization modules each executing on a distinct other

computing device, wherein each of the characterization modules is specialized to model a portion of the current state of a single user, and wherein the processing based on the modeled current state includes generating information about the user that is based at least in part on information for multiple of the portions of the current state.

119. (New) The method of claim 52 including receiving an indication of a source for at least one of requested values, and wherein the received values for those requested values are from the indicated source.

120. (New) The method of claim 52 including:

determining whether a received value from a source satisfies a criteria; and

when it is determined that the received value does not satisfy the criteria, obtaining an additional value from that source that satisfies the criteria and using the obtained additional value in place of that received value.

121. (New) The method of claim 52 wherein at least one of the attributes represents information about a group of users such that each of the users is a user of a computer on which one of multiple characterization modules is executing.

122. (New) The method of claim 52 wherein at least one of the attributes represents information about a group of computers on which multiple characterization modules are executing.

123. (New) The method of claim 52 wherein at least one of the attributes represents information about a physical environment common to multiple computers corresponding to at least the first and second sources.

124. (New) The method of claim 52 wherein at least one of the attributes represents information about a cyber-environment common to multiple computers corresponding to at least the first and second sources.

114. 125. (New) The method of claim 102 52 including, after receiving a request from a client for a value of a second indicated attribute, obtaining information from multiple sources able to provide information related to the second attribute and supplying the obtained information to the client.

115. 126. (New) The method of claim 102 52 including determining that the first source is available to supply a value based at least in part on a previously received registration message for the first source.

122. 127. (New) The method of claim 118 57 including:

determining a need for access to a resource available on another computer; and

accessing that resource to satisfy the need.

123. 128. (New) The method of claim 124 127 wherein the resource is information used during the retrieving of the multiple pieces of input information and/or the generating of the value and/or the sending of the indication of the generated value to the intermediary module, and wherein accessing of the resource includes retrieving the information.

124. 129. (New) The method of claim 118 57 wherein the method is performed by a first source associated with one of multiple characterization modules each executing on a distinct other computing device, wherein each of the characterization modules is specialized to model a portion of the current state of a single user, and wherein the one attribute is related to information about the user for one of the portions of the current state.

125. 130. (New) The method of claim 118 57 wherein the method is performed by a first source, and wherein the receiving of the request from the intermediary module is based on a request received by the intermediary module that indicate the first source.

126. 131. (New) The method of claim 118 57 including, if the intermediary module determined that the generated value does not satisfy a criteria, generating an additional

80

value and sending the additional value to the intermediary module based on a received request from the intermediary module.

132. (New) The method of claim 57 wherein the one attribute represents information about a group of users such that each of the users is a user of a computer on which one of multiple characterization modules is executing.

133. (New) The method of claim 57 wherein the one attribute represents information about a group of computers on which multiple characterization modules are executing.

134. (New) The method of claim 57 wherein the one attribute represents information about a physical environment common to multiple computers corresponding to multiple sources for the intermediary module.

135. (New) The method of claim 57 wherein the one attribute represents information about a cyber-environment common to multiple computers corresponding to multiple sources for the intermediary module.